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Attorney Docket No.: 3061/22

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of :
Toru SHIRASAKI : Group Art Unit: 1772
Serial No.: 09/752,688 : Examiner: Marc A. Patterson
Filed: January 3, 2001 :
For: CONTAINER FOR FRAMED PELLICLE

APPLICANT'S BRIEF ON APPEAL

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APPLICANT'S BRIEF ON APPEAL

Sir:

The Applicant submits herewith three copies of a Brief in support of his Appeal from a Final Rejection by the Primary Examiner of claims 8, 9, 11, 13 and 14 in the above-captioned application. The requisite fee of \$500.00 as set forth in USPTO fee code 1402/2402 accompanies this Brief.

REAL PARTY OF INTEREST

The real party of interest is Shin-Etsu chemical Co., Ltd., a corporation of Japan.

RELATED APPEALS AND INTERFERENCES

The Applicant and the Applicant's attorney know of no other appeal or interference which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 8, 9, 11, 13 and 14 were finally rejected on October 29, 2004 and are the subject of this appeal. A copy of Claims 8, 9, 11, 13 and 14 as amended, are attached hereto as Exhibit 1.

STATUS OF AMENDMENTS

The Amendment of August 18, 2004 has been entered.

SUMMARY OF THE INVENTION

The following is a concise explanation of the invention as defined by claims 8, 9, 11, 13 and 14 which are involved in this appeal. The summary includes the page, paragraph and line numbers which refer to the Applicant's specification as well as figures and numbers which refer to elements in the specification and claims.

The present invention relates to a container for a framed pellicle and more particularly to a container for containing a framed pellicle used for dust proof protection of a photo mask in the photo lithographic patterning works, (page 1, paragraph 001, lines 1-4).

As illustrated in Figure 2, the container 7 of the present invention is an assembly composed of a container base 7A and a covering 7B mounted on the container base 7A, (page 6, paragraph 0017, lines 1-3 and Figure 2). When the covering 7B is mounted on the container base 7A in place, an inside space 7C is formed to contain a framed pellicle 6, (page 6-7, paragraph 0017, lines 3-5). The most characteristic feature of the invention is that in a container 7 for a framed pellicle, at least the surface layer of the container 7, i.e., the container base 7A and covering 7B, facing the inside space 7C are formed from an inorganic material which can be a metal or alloy, glass material or ceramic material, (page 7, paragraph 0018, lines 1-5 and Figures 2 and 3). Examples of the metal and alloy suitable for the purpose include aluminum, copper,

iron and stainless steel, (page 7, paragraph 0018, lines 5 and 6). The ceramic material... is exemplified by silicon nitride, silicon carbide, zirconia, alumina, boron nitride and the like, (page 7, paragraph 0018, lines 12-14).

Instead of forming the entire body of the container 7 from the above-mentioned inorganic material as illustrated in Figure 2, it is optional that the walls of the container have a composite layered structure consisting of a core 8A or 8B made from a conventional resin and cladding layers 9, 10 of an inorganic material as the outer and inner surfaces, respectively of the cores 8A, 8B as is illustrated in Figure 3 by a vertical cross sectional view containing a framed pellicle 6 in the inside space, (page 7, paragraph 0019, lines 1-8). The cladding layers 10 of an inorganic material on the outer surface of the container base and covering are not essential and can be omitted as illustrated in Figure 4, (page 7, paragraph 0019, lines 8-11).

As stated on page 5, paragraph [0010] an object of the invention is "to provide a container for a framed pellicle which is free from emission of any organic matters which might be adsorbed on the pellicle membrane...." In paragraph [0011] which bridges page 5 and 6, the specification states, "The present invention provides an improvement in a container for a framed pellicle as an assembly of a container base and a covering mounted on the container base jointly to form an inside space for containing a framed pellicle, which improvement comprises forming at least the surface layer of the container base and covering facing the inside space from an inorganic material selected from the group consisting of metals, alloys, glass materials and ceramic materials. (Emphasis Added.).

As clearly shown in Figures 3 and 4 the inorganic material completely surrounds the pellicle.

The inorganic cladding layer 10 on the inner surfaces of the cores 8A, 8B of the container should desirably have a thickness of at least 0.1 μm ., (page 8, paragraph 0020, lines 1-3).

Paragraph 20, at lines 3-6 states, "When the thickness is too small, the inorganic cladding layers are eventually subject to the formation of cracks or fissures so that emission of organic contaminant gases from the cores 8A, 8B of a plastic resin cannot be completely prevented."

ISSUE

The sole issue in this appeal is whether claims 8, 9, 11, 13 and 14 which were rejected under 35 U.S.C. §103(a) are patentable over Beldyk et al. (U.S. Patent Number 5,042,655).

GROUPING OF THE CLAIMS

The rejected claims do not stand or fall together for the reasons set forth herein under arguments.

ARGUMENTS

It is respectfully submitted that claims 8, 9, 11, 13 and 14 are clearly and patentably distinguished over the Beldyk et al., U.S. Patent No. 5,042,655.

As stated in 35 U.S.C. §103(a):

A patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious, at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. (Emphasis added.)

In addition, the Manual of Patent Examining Procedure (Eighth Edition Revision Two May 2004) § 2141.35 at p. 2100-98 states:

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectations of success is the standard with which obviousness is determined. (Emphasis added.)

In the present case, the subject sought to be patented is not disclosed or suggested by the cited reference. To be more specific, claim 8 and depended claims 9, 11, 13 and 14 call for:

a container for a framed pellicle comprising a container base including a first surface area and a covering made of plastic resin and including a surface mounted on said container base to form any inside space between said first surface area of said base and said surface of said covering to contain a framed pellicle therein, wherein said first surface area of said base and said surface area of said covering each include a layer formed of an inorganic material selected from the group consisting of metals, alloys, glass and ceramics with said inorganic material completely surrounding the pellicle and in which the layer formed on each of said container base and said covering have a thickness of at least 0.1 μm .
(Emphasis Added).

In the aforementioned Office Action, the Examiner stated:

With regard to claim 8 Beldyk discloses a container (package; column 2, line 60) for a framed pellicle (column 2, line 62-63) comprising a base (modem member; column 2, line 61), a covering for the casing which is mounted on the lower member (upper member; column 2, line 61), and an inside space between the casing and covering in which the pellicle is housed (the pellicle is housed within the box; column 2, line 60); the packaging material from which the base and covering are made comprises metallized plastic (column 5, lines 55-58) and therefore a first surface of the base and covering comprise metal; the covering is hinged to the end base and comprises no openings, therefore the metal

completely surrounds the pellicle (column 6, lines 22-28; Figures 4A and 4B). Beldyk fails to disclose a metallized layer having a thickness of at least 0.1 μm .

The Examiner went on to state:

Beldyk discloses a layer having a total thickness of 0.05 to 0.1 inches (column 7, lines 5-6) and teaches the selection of thickness to obtain a desired flexibility (the desired material is obtained in flexible sheets of the desired thickness; column 7, lines 7-8) therefore one of ordinary skill in the art would have recognized the utility of varying the thickness to obtain a desired flexibility. Therefore the flexibility would be readily determined through routine optimization of thickness by one having ordinary skill in the art depending on the desired end use of the product.

It is respectfully submitted that the above argument is flawed for at least two reasons. First, the Beldyk et al. patent does not disclose or suggest a container which is free from emissions of any organic material which might be adsorbed on a pellicle surface. In fact Beldyk et al. at column 5, line 66 to column 6, lines 1-10 states:

Examples of material suitable for forming the pellicle packaging
and handling components are listed in Table 1 below:

The materials listed in Table 1 include polyethylene, Terephthalate (PET), high-impact polystyrene, polycarbonate and acrylics.

Beldyk et al. does not suggest a single inorganic material in his list of suitable materials. At an early point in the patent Beldyk at column 5, lines 51-55 states:

Also the packaging and handling material should have the ability to dissipate electrical charge. Metal is ideal for dissipating electrical charge, but is undesirable for the box top and bottom members because of weight, corrosion, expense and the like. Other candidates are low particle generating carbon filled plastics, metallized plastics and plastics with anti static coatings or additives.

What the Beldyk et al. reference teaches is that a metallized plastic can be used to dissipate electrical charge and that a metallized plastic is the equivalent of a plastic with an anti static coating. Based on a reading of the Beldyk et al. patent, it appears that the metal part of the metallized plastic would be on the outside with the plastic on the inside. This interpretation is consistent with the previously mentioned list of suitable materials, none of which are inorganic.

Accordingly, it is Applicant's contention that the reference does not suggest the desirability of a first surface and covering made of plastic resin and wherein said first surface area of said base and said surface area of said covering each include a layer formed of an inorganic material as called for in claims 8, 9, 11, 13 and 14.

Further, in considering the reference as a whole, the Examiner overlooks the fact that the statement referring to a metallized plastic is followed by the statement "If antit-static coatings are used such should be capable of withstanding the cleaning process and not be susceptible to outgasing.

Accordingly, it is Applicant's contention that in considering the reference as a whole, it teaches that a metallized plastic will dissipate an electrical discharge. Clearly, it does not suggest a container base and covering made of plastic resin and wherein the first surface area of the base and said surface area of said covering each include a layer formed of an inorganic material, and with said inorganic material completely surrounding the pellicle. It is also Applicant's contention that the aforementioned rejection is clearly tainted with hindsight. Therefore, the rejection under 35 U.S.C. § 103 violates the mandate of section 2145.35 of the M.P.E.P. and should be reversed.

In essence, there is no teaching of a first surface area and a covering made of plastic resin and an inside surface on the container base and an inside surface of the covering each of which includes a layer formed of an inorganic material with the inorganic material completely surrounding the pellicle as called for in Applicant's claims 8, 9, 11, 13 and 14.

Claims 8, 9, 11, 13 and 14 also call for:

In which the layer formed on each of said container base and said covering have a thickness of at least 0.1 μm .

The Examiner argued:

However Beldyk discloses a total thickness of 0.05 to 0.1 inch (col. 7, lines 5-6) and teaches the selection of thickness to obtain a desired flexibility (the desired material is obtained in flexible sheets of the desired thickness; col. 7, lines 7-8). Therefore, one of ordinary skill in the art would have recognized the utility of varying the thickness to obtain a desired flexibility. Therefore, the flexibility would be readily determined through routine optimization of thickness by one having ordinary skill in the art depending on the desired end use of the product.

The above argument overlooks the fact that flexibility is essentially irrelevant in Applicant's invention. Further Applicant's claim calls for a container of a plastic resin with a layer formed of an inorganic material completely surrounding the pellicle and having a thickness of the inorganic layer of at least 0.1 μm . As explained in Applicant's specification, paragraph [0020]:

When the thickness is too small, the inorganic cladding layers are eventually subject to the formation of crack or fissures so that emission of organic contaminate gases from the cores 8A, 8B of a plastic resin cannot be completely prevented.

The problem with the Examiner's argument is two fold. First, Applicant is claiming the thickness of the inorganic cladding or layer as opposed to the total thickness of the packaging and second, the problem solved by Applicant has nothing to do with flexibility but protecting a pellicle from contact with contaminant gases.

Claim 9 is further distinguished over the cited art by calling for:

In which said container base and said covering consist of an inorganic material selected from the group consisting of metals, alloys, glass and ceramics.

It is Applicant's contention that a base and cover made of materials suitable for forming the pellicle packages and handling components as listed in Table 1, column 6 of Beldyk et al. do not disclose or suggest this concept. Assuming *arguendo* that the reference suggest a metallized plastic for the pellicle package, that would not suggest a base and covering consisting of an inorganic material as called for in claim 9. Still further, as disclosed in column 3, lines 29 plus of Beldyk et al., the bottom of the box member is provided with a contact surface that is peelably adhered to the ceiling edge 24. This pellicle surface may be a foamed gasket or other adhesive material. Therefore having an organic material covering the bottom surface does not disclose or suggest surrounding the pellicle package i.e., adjacent to the pellicle with an inorganic layer.

Claim 11 is further distinguished over the cited reference by calling for said container base and said covering each including a second surface and in which said second surface includes a layer formed of an inorganic material selected from the group consisting of metals, alloys, glass and ceramics.

In rejecting claim 11, the Examiner stated:

“Beldyk fails to disclose a second surface comprising inorganic material. However Beldyk teaches that the first surface comprises inorganic material for the purpose of dissipating static charge (column 5, lines 51 and 52). One of ordinary skill in the art would therefore also recognize the utility of providing for a second surface which comprises metal depending on the number of surfaces which are desired to have static dissipation in the end product.

With respect to claim 11 there is no showing whatsoever in Beldyk et al. of a second surface comprising inorganic material.

Further there is no suggestion in Beldyk et al. of providing two inorganic surfaces. In addition, there appears to be no reason for two metal layers for static dissipation. Clearly, if such inorganic layers were glass or ceramic these would have little or no static dissipation. Accordingly, the rejection under 35 U.S.C. §103 should be reversed.

Claim 13 is further distinguished over Beldyk et al. by calling for:

in which the metal or alloy is selected from the group consisting of aluminum, copper, iron and stainless steel

In rejecting claim 13, the Examiner stated:

...Beldyk fails to disclose a metallized plastic comprising aluminum. However Beldyk teaches the use of an aluminum as a metal of the invention for protection of

the pellicle (the frame comprising aluminum, column 2, lines 62-65). It would therefore also comprise alumina.

It is Applicant's contention that the use of an aluminum frame for handling a pellicle does not in any way disclose or suggest an inorganic surface in a container for protecting a pellicle membrane from the emission of a contaminant gas. Clearly, the use of metallized plastic which might include aluminum does not in any way suggest the use of alumina.

Claim 14 calls for:

...said first area of said inner surface of said covering including a layer formed from any inorganic material selected from the group consisting of silicon nitride, silica carbide, zirconia, alumina and boron nitride.

In rejecting claim 14 the Examiner stated:

"...the metallized plastic would therefore also comprise alumina."

It is respectfully submitted that the above that metallized would therefore also comprise alumina is mere speculation on the part of the Examiner. Clearly, alumina is a ceramic and is not metallized layer.

It is Applicant's contention that Beldyk et al. does not disclose or suggest a container for a framed pellicle wherein the container is made of plastic resin including a layer formed from an inorganic material. In fact, the cited reference does not disclose the use of metal. What the reference says is that metal will dissipate static electricity but is not desirable. The reference also states that metallized plastics would dissipate static electricity but does not state that metallized plastics are suitable for use in the pellicle container. In fact, the reference states that the suitable materials are listed in Table 1 and include organic compounds. Further, there

is nothing in Beldyk et al. which suggest that a metallized plastic for dissipating static electricity contains alumina AL2O3 or that the metallized layer would be on the inside of the container. It would appear that if it was on the inside of the container it would not dissipate static electricity. Accordingly, claim 14 should be allowed.

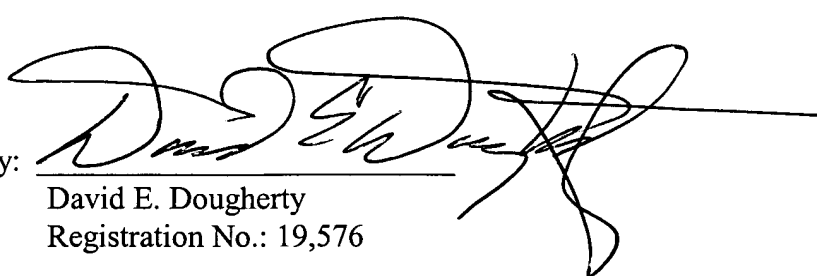
CONCLUSION

In view of the above, the Examiner's rejection of claims 8, 9, 11, 13 and 14 under 35 U.S.C. §103(a) should be reversed.

Respectfully submitted,

Dated: 4/23/05

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EXHIBIT 1

IN THE CLAIMS:

Please cancel claims 10 and 12 and rewrite claims 8 and 11 as follows:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)

8. (Currently Amended) A container for a framed pellicle comprising a container base including a first surface area and a covering made of plastic resin and including a surface mounted on said container base to form an inside space between said first surface area of said base and said surface of said covering to contain, and a framed pellicle therein, ~~disposed within said inside space and~~ wherein said first surface area of said base and said surface of said covering are each include a layer formed of an inorganic material selected from the group consisting of metals, alloys, glass and ceramics with said inorganic material completely surrounding the pellicle and in which the layer formed on each of said container base and said covering have a thickness of at least 0.1 μ m.

9. (Previously Presented) A container for a framed pellicle according to claim 8 in which said container base and said covering consist of an inorganic material selected from the group consisting of metals, alloys, glass and ceramics.

10. (Cancelled)

11. (Currently Amended) A container for a framed pellicle according to claim ~~10~~ 8 in which said container base and said covering each include a second surface and in which each of said second surfaces include a layer formed of an inorganic material selected from the group consisting of metals, alloys, glass and ceramics.

12. (Cancelled)

13. (Previously Presented) A container for a framed pellicle according to claim 8 in which the metal or alloy is selected from the group consisting of aluminum, copper, iron and stainless steel.

14. (Previously Presented) A container for a framed pellicle according to claim 8 wherein said first surface area and said inner surface of said covering including a layer formed from an inorganic material selected from the group consisting of silicon nitride, silicon carbide, zirconia, alumina and boron nitride.